APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/450,381	11/29/1999	RAJESH R. SHAH	219.37639X00	7550

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EXAMINER
ANYA, CHARLES E

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/450,381	SHAH ET AL.
	Examiner	Art Unit	
	Charles E Anya	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3/_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06 April 2000_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1 – 5,7 and 14 – 21 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Pat. No. 6,151,684 to Alexander et al.

As to claim 1, Alexander teaches a Host (Nodes 12 Col. 5 Ln. 54 – 67, Col. 6 Ln.

1 – 17), a Cluster Fabric (Cluster 10, "numeral 11..." Col. 5 Ln. 45 – 67, Col. 6 Ln. 1 –

28), a Fabric-Attached I/O Controller (SCSI Controllers 22, I/O Controllers 28 Col. 5 Ln.

54 – 67 "device..." Col. 8 Ln. 32 – 44), a Processor (CPU 36 Col. 5 Ln. 65 – 67), a

Memory (Memory 38 Col. 5 Ln. 65 – 67), an Operating System (("TNC-enhanced

operating system" Col. 6 Ln. 6 – 28, UNIX operating system Col. 7 Ln. 57 – 67, Col. 8

Ln. 1 – 67), a I/O Bus Abstraction ("vproc layer..." Col. 6 Ln. 35 – 45, "mechanism..."

Col. 8 Ln. 35 – 44, Col. 9 Ln. 5 – 14, "cspecfs mechanisms..." Col. 10 Ln. 28 – 45) and

a Target Fabric-Attached I/O Controller ("device..." Col. 8 Ln. 32 – 44).

As to claim 2, Alexander teaches a Kernel ("base kernel code..." Col. 6 Ln. 35 –

45) and I/O Abstraction (Col. 6 Ln. 35 – 45).

As to claim 3, Alexander teaches the presenting of the cluster fabric as a local I/O Bus and one or more target fabric-attached I/O controllers as local I/O controllers (Col. 6 Ln. 6 – 46).

As to claim 4, Alexander teaches a Host-Fabric Adapter (I/O Devices 20, SCSI Controllers 22 Col. 5 Ln. 54 – 64).

As to claim 5, Alexander teaches a Fabric Adapter Device Driver ("driver(s)..." Col. 7 Ln. 42 – 45).

As to claim 7, Alexander teaches utilizing the multiple paths for fault tolerance (Col. 8 Ln. 31 – 44).

As to claim 14, claim 1 meets claim 14 except for a fabric manager. Alexander teaches a Fabric Manager ("e.g. node 12..." Col. 11 Ln. 17 – 45).

As to claim 15, see the rejection of claim 2.

As to claim 16, see the rejection of claims 4 and 5.

As to claim 17, see the rejection of claim 6.

As to claim 18, see the rejection of claim 7.

As to claim 19, see the rejection of claim 8.

As to claim 20, Alexander teaches a fabric services that detects connection ("identifies the ownership..." Col. 11 Ln. 17 – 25), the step of assigning a network address (Col. 12 Ln. 62 – 67, Col. 13 Ln. 1 – 5) and I/O Controller Manager (DOIS Server Code 66, DOIS Server DLM Col. 12 Ln. 62 – 67, Col. 13 Ln. 1 – 29).

As to claim 21, claim 1 meets claim 21 except for a fabric adapter device driver. Alexander teaches a Fabric Adapter Device Driver ("device driver..." Col. 9 Ln. 5 – 45).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 9 – 13, 22 and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Pat. No. 6,151,684 to Alexander et al in view of applicant's prior

art (herinafter referred to as APA page 13).

As to claim 9, claim 1 meets claim 9 except for an I/O manager and one or more

I/O controller drivers.

Alexander teaches one or more I/O Controller Drivers (Col. 7 Ln. 42 – 45).

Alexander does not teach an I/O manager.

APA teaches an I/O Manager (Plug-n-Play Manager page 13 line 1). It would have been

obvious to apply the teaching of APA to the system of Alexander. One would have been

motivated to make such a modification to provide hot swap of I/O controllers.

As to claim 10, see the rejection of claims 3 and 9.

As to claim 11, see the rejection of claim 3.

As to claim 12, see the rejection of claim 9.

As to claim 13, see the rejection of claim 23.

As to claim 22, claims 9, and 21 meets claim 22 (NOTE: loading/initialization is

inherent in Alexander and APA) of except for enabling the local I/O bus driver to identify

any local I/O controllers connected to a corresponding local I/O bus, enabling the fabric

bus driver to identify any fabric-attached I/O controllers, report the identified local I/O

controllers and the identified fabric-attached I/O controllers to the I/O manager.

Alexander teaches enabling the local I/O bus driver to identify any local I/O controllers

connected to a corresponding local I/O bus ('specfs..." Col. 8 Ln. 3 – 10:NOTE: the I/O

bus is inherent), enabling the fabric bus driver to identify any fabric-attached I/O

controllers, report the identified local I/O controllers (DOIS Col. 10 Ln. 1 – 27) and the

identified fabric-attached I/O controllers to the I/O manager (Although this step is not

taught by Alexander, one of ordinary skill would known to implement this step because

during dynamic/hot swap I/O manager must be aware of attached I/O controllers).

As to claim 23, Alexander teaches a set of procedures or commands ("common

interface..." Col. 8 Ln. 3 – 8).

5.   Claims 6,8 and 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Pat. No. 6,151,684 to Alexander et al. in view of applicant's admitted prior art

(APA) as applied to claim 22 above, and further in view of U.S. Pat. No. 6,148,349 to

Chow et al.

As to claim 24, claims 1 and 22 meets claim 24 except for creating one instance

of an I/O controller driver stack.

Alexander is silent with reference to creating one instance of an I/O controller driver

stack.

Chow teaches creating one instance of an I/O controller driver stack (Initialization

(cs_init) Col. 13 Ln. 54 – 61). It would have been obvious to apply the teaching of Chow

to the system of Alexander. One would have been motivated to make such a

modification to prepare a device for I/O's (Col. 13 Ln. 54 – 61).

As to claim 6, see the rejection of claims 1 and 24.

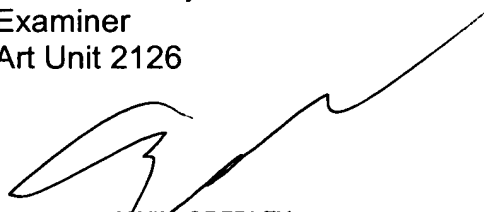As to claim 8, see the rejection of claims 1 and 24.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Charles E Anya whose telephone number is (703) 305-

3411. The examiner can normally be reached on M-F (8:30-5:30) First Friday off.

The fax phone numbers for the organization where this application or proceeding

is assigned are (703) 746-7239 for regular communications and (703) 746-7240 for

After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

Charles E Anya
Examiner
Art Unit 2126

ALVIN OBERLEY
SUPERVISORY PATENT EXAMINER
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